

**Summary report of stock use in wilderness meadows  
Sequoia and Kings Canyon National Parks, 1999**

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## **Introduction**

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This document provides the 1999 annual summary of reported administrative and recreational saddle and packstock use of the wilderness meadows of Sequoia and Kings Canyon National Parks (SEKI). This information is collected via reporting forms that are distributed to commercial, private, and administrative stock users, and from the wilderness permit database. After each trip all stock users at SEKI are required to provide the information requested on these forms.

Data on stock use of the wilderness meadows of SEKI has been collected in one form or another for over fifty years. In 1986, a standardized approach with accompanying computer database was initiated, and this method, although modified, is still in use today. From this database, yearly summary statistics are prepared and presented in tabular and graph form, and comparison with past years use is presented.

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## **Methods**

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At the beginning of each field season (May) all commercial and administrative stock users of the wilderness at SEKI are provided forms to document their trips. Private stock users are given a "Stock-Use Card" along with the issuance of their wilderness permit. All stock users are required to respond to the information requested on these forms, which includes:

- 1) Name of packer
- 2) Date of trip
- 3) Packer classification (commercial, administrative, or private)
- 4) Type of stock used
- 5) Number of stock
- 6) Number of people
- 7) Name and location of forage areas where stock grazed
- 8) Number of nights spent in each forage area

After each trip these forms are completed and returned to the meadow monitoring specialist at SEKI and the information is then entered into a database. This years database file is named "**1999.dbf**", and contains over 400 records of various private, commercial, and administrative overnight stock trips.

In previous years (prior to 1998) there was some confusion over the terminology used to calculate use levels presented in the annual stock use report. It appears as though the term stock night had been used interchangeably with animal unit night, and it was not always clear which unit was being referred to. The following definitions are intended to help clarify these terms and to set the stage for the data that follow in the rest of the report.

Conventionally, an overnight stay by a pack animal is defined in terms of a common currency, the **animal unit night**. An **animal unit** is equal to approximately 1,000 pounds of grazing

animal; an animal unit night refers to an overnight stay by that animal. In range management almost everything is compared to cows, which at approximately 1,000 pounds are rated at 1.00 animal unit night. According to this system, an overnight stay by a horse or mule is defined as 1.25 animal unit nights. An overnight stay by a burro is 0.50 of an animal unit night, and a llama is 0.35 of an animal unit night. The use of animal unit nights reflects the variation in forage consumed by these different sized animals, and allows for comparison with other grazing systems. An adult horse consumes approximately 25% more forage than an adult cow in a 24 hour period, a llama consumes 35% of that of a cow, and a burro about 50%. Thirty animal unit nights are equal to one **animal unit month** (AUM) which is the amount of dry forage required by one animal unit for one month based on a standardized forage allowance of 26 pounds per day. The use of these standardized units allows range managers to compare use across systems and to establish grazing capacities based on the varying consumption of forage by different types of animal.

For the purposes of this report, and to make the data accessible to all users, a **stock night** represents an overnight stay by any pack animal, without reference to the more conventional animal unit night. In order to facilitate comparison between years, the statistics that follow are reported in stock nights. Where the data allow, summary figures are reported in both animal unit and stock nights in order to provide as much information as possible. **When referring to earlier reports, note that there may be discrepancies in the numbers reported due to use of different terminology.** Discussions of grazing capacity, as in the annual Residual Biomass Monitoring Report, always rely on the more conventional animal unit night.

The following figures represent overnight visits by stock only, they do not include stock use from day trips, or drop trips which were completed in one day.

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## Results

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**User compliance.** Of the 24 commercial pack stations operating in Sequoia and Kings Canyon during 1999 (four concessioners, 21 Incidental Business Permit (IBP) holders), six submitted their annual stock use reports by the October 31 due date specified in their contract or permit. Another four submitted their reports within one month of the deadline. A second warning letter was sent to seven outfitters on January 7, 2000, stating that failure to submit the required report by January 31 would be taken as an indication that the permit holder did not intend to conduct business in the parks during the upcoming season. As of this writing, two pack stations have yet to respond to this request. Note that because of these missing reports, this document under-reports commercial use (and hence total stock use) for 1999. The availability of ranger observations made it possible to record a limited number of the unreported nights, but these clearly represent only a subset of their actual use.

Of the sixty-six permits in the wilderness permit database identified as issued to private users, eight returned their cards without further prompting at the end of the season. Forty-four (those

which had complete address information) were sent letters requesting that their delinquent cards be returned. Of twenty-two responses, eleven turned out to be connected with commercial packers. This illustrates our current inability to accurately identify permits as being issued to commercial, private or administrative stock users.

Reported recreational and administrative stock use during the summer of 1999 totaled **7,780 stock nights**, or 9,384 animal unit nights. This is compared to 4,976 stock nights in 1998, 9,101 in 1997, 6,708 in 1996, 5,323 in 1995, 9,502 in 1994, 7,818 in 1993, 11,107 in 1992, and 11,202 in 1991.

The following statistics describe 1999 stock use by stock type, user type, month, and forage area; and compares that use with past years for which data are available. The letter next to the year indicates the type of snow pack winter (d=dry, n=normal, w=wet) that preceded the field season. According to the amount of moisture in the snowpack, we categorize a year as one of the following:

- 1) **Dry** (less than 50% of average precipitation)
- 2) **Normal** (51% to 150% of the average precipitation)
- 3) **Wet** (more than 150% of the average precipitation)

The snowpack is the best indicator we have of the amount of moisture the meadows received. Meadow opening dates for a particular season are adjusted based on snowpack in the high country during the preceding winter.

1999 was an average year in the southern Sierra Nevada, with a May 1 snowpack ranging from 55% to 72% of normal in Sequoia and Kings Canyon drainages. Consequently, most passes were snow-free and stream crossings relatively manageable at the start of the season. Opening dates for the majority of backcountry meadows were in line with the normal year guidelines. These conditions contributed to a 56% increase in total reported stock use (up 2,793 stock nights from 4,987 in 1998 to 7,780 in 1999). Relative to 1998, reported commercial use increased by 1,661 stock nights, a 92% increase while reported private use decreased by 65 stock nights, a 6% decline. Administrative use increased by 57%, or 1,208 stock nights.

**Types of use.** Use is divided into three categories: **Commercial** users are people or companies that pack in stock as a paid service. Companies or individuals of this type are required to hold a commercial operators license with the park. **Private** use is packing done by an individual or with his or her friends or family. Only a standard backcountry permit is required for this type. **Administrative** users are those that are employed by the National Park Service and who use pack stock in order to carry out their official duties.

<b>1999</b>	<b>%</b>	<b>Stock Nights</b>	<b>Animal Unit Nights</b>	<b>Animal Unit Months</b>
<b>Commercial</b>	45	3,467	4,016	134
<b>Private</b>	12	974	1,194	40
<b>Administrative</b>	43	3,339	4,174	139
<b>TOTAL</b>	<b>100</b>	<b>7,780</b>	<b>9,384</b>	<b>313</b>

**Supplemental feed.** Reported use of supplemental feed (hay, pellets or grain packed in lieu of grazing) decreased markedly from 339 stock nights in 1998 (a remarkably wet year, with delayed opening dates) to 77 stock nights in 1999 (a “normal” year, in which most meadows opened according to schedule). Commercial users continued to report proportionally more use of supplemental feed than private or administrative users. Note that missing data from two pack stations may account for much of this decrease, as at least one was from a primary user of supplemental feed in 1998.

Reported use (stock nights) of supplemental feed by user group 1997 - 1999 .

	<b>1999</b>	<b>1998</b>	<b>1997</b>
<b>Commercial</b>	51	256	99
<b>Private</b>	26	39	12
<b>Administrative</b>	0	44	31
<b>TOTAL</b>	<b>77</b>	<b>339</b>	<b>142</b>

**Historical Use** (1955 to present). Reported use of stock at Sequoia & Kings Canyon National Parks from 1955 to the present is listed below. Information from years prior to 1955 probably exists but has yet to be located and summarized. As new information arises it will be incorporated into subsequent reports. Refer to **Table 1** and **Figure 1**. It is important to note that these reflect *reported* use; due to inconsistencies in reporting, these may be quite different from actual use.

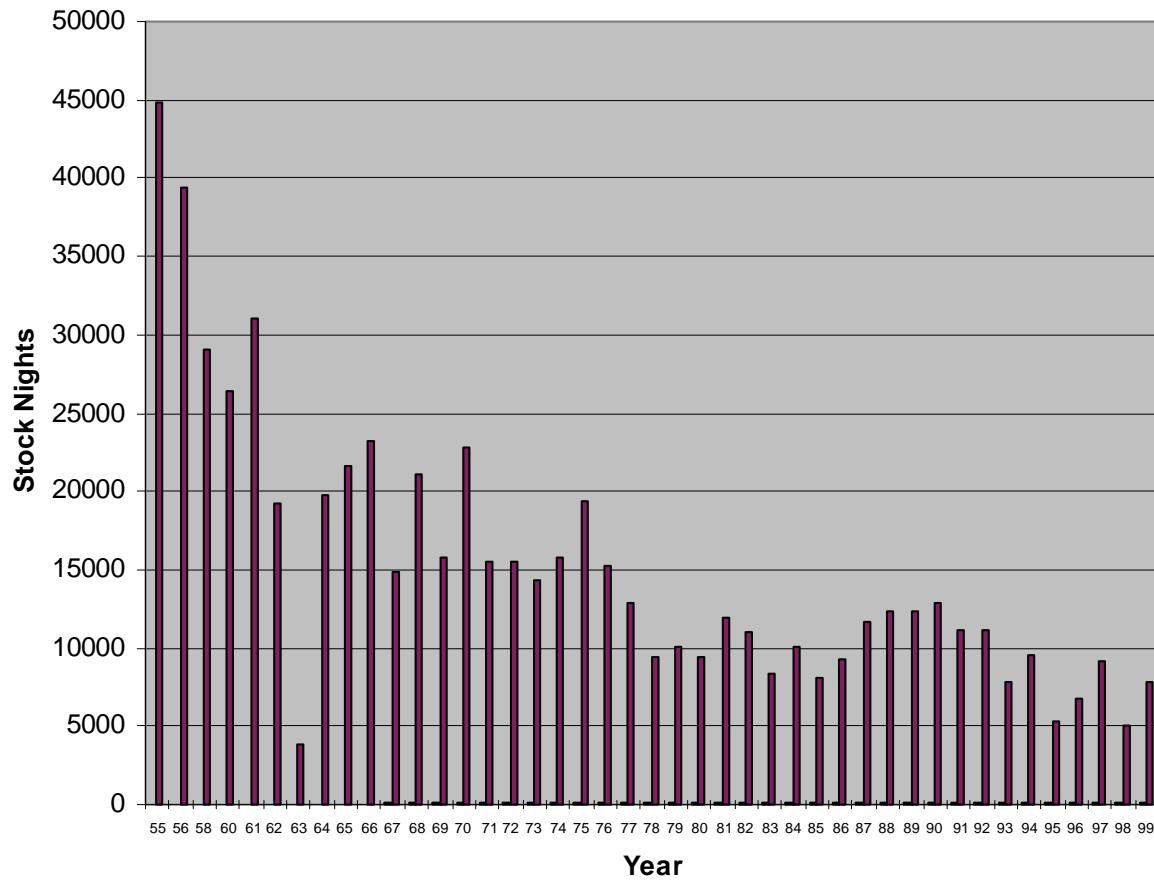
Administrative grazing at the Ash Mountain pastures is not included in these figures. Up to 90 horses and mules may be grazing at Ash Mountain at any one time. Over the years, grazing at these pastures has ranged from approximately 300 to 700 AUM's or 8000 to 21000 animal unit nights per year. Almost all of the park stock spend the winter (November to May) at the Pixley Wildlife Refuge in the San Joaquin Valley, so winter grazing at Ash Mountain is normally negligible. At the time of this report, use data for the pastures during 1999 were not available.

**TABLE 1. Historical Reported Stock Use at Sequoia and Kings Canyon National Parks.** The letter next to the year indicates the type of snowpack year it was: w=wet, n=normal, d=dry. **Stock Nights** refer to an overnight stay by an animal regardless of type. **Animal Unit Months (AUM's)** are calculated by dividing the number of days in a month (30) into the number of animal unit nights; to calculate animal unit nights, multiply this figure by 30 (see text for definition).

YEAR	Commercial			Private			Administrative			Total	
	Stock Nights	%	AUMs	Stock Nights	%	AUMs	Stock Nights	%	AUMs	Stock Nights	AUMs
<b>1999n</b>	3467	45	134	974	12	40	3339	43	139	7780	313
<b>1998w</b>	1806	36	66	1039	21	41	2131	43	89	4976	196
<b>1997n</b>	3703	40	146	2969	33	113	2429	27	101	9101	360
<b>1996n</b>	3608	54	148	953	14	37	2147	32	89	6708	274
<b>1995w</b>	2746	52	115	1449	27	60	1128	21	23	5323	222
<b>1994d</b>	5328	56	213	1743	18	70	2431	26	101	9502	384
<b>1993w</b>	4200	54	140	1256	16	42	2362	30	79	7818	261
<b>1992d</b>	6112	55	204	1988	18	66	3007	27	100	11107	370
<b>1991n</b>	6619	59	221	1547	14	52	3036	27	101	11202	374
<b>1990d</b>	7947	62	265	1864	14	62	3084	24	103	12895	430
<b>1989d</b>	6810	55	227	1530	12	51	3990	31	133	12330	411
<b>1988n</b>	7350	60	245	1770	14	59	3210	26	107	12330	411
<b>1987d</b>	6000	51	200	2430	21	81	3300	28	110	11730	391
<b>1986w</b>	4500	48	150	1860	20	62	2940	32	98	9300	310
<b>1985n</b>	4530	56	151	1980	24	66	1620	20	54	8130	271
<b>1984</b>	4530	45	151	2700	27	90	2910	28	97	10140	338
<b>1983</b>	3420	41	114	3180	38	106	1740	21	58	8340	278
<b>1982</b>	4740	43	158	3120	28	104	3150	29	105	11010	367
<b>1981</b>	6120	51	204	1950	16	65	3870	32	129	11940	398
<b>1980</b>	3870	41	129	3060	32	102	2550	27	85	9480	316
<b>1979</b>	4110	41	137	3120	31	104	2790	28	93	10020	334
<b>1978w</b>	3390	36	113	2700	29	90	3360	35	112	9450	315
<b>1977d</b>	4860	38	162	4500	35	150	3540	28	118	12900	430
<b>1976d</b>	5790	38	193	4110	27	137	5400	35	180	15300	510

YEAR	Commercial			Private			Administrative			Total	
	Stock Nights	%	AUMs	Stock Nights	%	AUMs	Stock Nights	%	AUMs	Stock Nights	AUMs
<b>1975n</b>	7650	40	255	6060	31	202	5610	29	187	19320	644
<b>1974n</b>	8730	55	291	2850	18	95	4260	27	142	15840	528
<b>1973w</b>	9600	67	320	1050	7	35	3630	26	121	14280	476
<b>1972d</b>	10770	69	359	570	4	19	4200	27	140	15540	518
<b>1971n</b>	10500	67	350	570	4	19	4500	29	150	15570	519
<b>1970n</b>	14940	66	498	780	3	26	7050	31	235	22770	759
<b>1969w</b>	9540	60	318	240	2	8	6000	38	200	15780	526
<b>1968n</b>	13980	66	466	720	3	24	6360	30	212	21060	702
<b>1967n</b>	10230	69	341	540	4	18	4110	27	137	14880	496
<b>1966d</b>	15420	69	514	930	4	31	6000	27	200	22350	775
<b>1965n</b>	14520	67	484	1920	9	64	5130	24	171	21570	719
<b>1964n</b>	14550	74	485	1560	8	52	3600	18	120	19710	657
<b>1963n</b>	0	0	0	0	0	0	3900	100	130	3900	130
<b>1962n</b>	15000	78	500	0	0	0	4200	22	140	19200	640
<b>1961d</b>	24990	80	833	1890	6	63	4200	14	140	31080	1036
<b>1960n</b>	22920	87	830	1500	6	50	1980	8	66	26400	880
<b>1958n</b>	20280	69	676	4230	15	141	4500	16	150	29010	967
<b>1956n</b>	32820	83	1094	2190	6	73	4350	11	145	39360	1312
<b>1955n</b>	35490	79	1183	3180	7	106	6150	14	205	44820	1494

## TOTAL STOCK NIGHTS AT SEQUOIA & KINGS CANYON NATIONAL PARKS



**Figure 1:** Reported Stock Use in Wilderness Meadows of Sequoia and Kings Canyon National Parks, 1955-1999.

**Administrative Use** (Stock nights). This includes all reported use by National Park Service personnel in the wilderness meadows. It does not include Ash Mountain grazing.

	ADMINISTRATIVE USE										
	1999n	1998w	1997n	1996n	1995w	1994d	1993w	1992n	1991d	1990d	
Historic Preservation Crew	0	0	0	0	0	0	0	0	354	278	
Hockett Ranger	86	100	159	160	200	0	160	254	0	0	
Hockett Trail Crew	637	325	41	330	169	384	565	531	63	568	
Kern Trail Crew	1093	552	888	494	3	1067	391	820	693	847	
Kern Ranger	465	425	429	274	118	358	300	407	276	216	
Kern Subdistrict Ranger	12	0	0	0	0	44	4	48	0	0	
Kings Trail Crew	854	378	558	440	404	542	616	798	908	525	
Kings District Rangers	0	21	51	-	-	-	-	-	-	-	
Mineral King Subdistrict Ranger	0	0	0	9	4	0	40	0	0	0	
Roaring River Ranger	147	154	133	200	120	120	0	0	0	361	
Squad Trip	na	102	90	108	80	166	140	110	180	114	
Miscellaneous	45	74	80	130	202	-	-	39	-	-	
<b>TOTAL</b>	<b>3339</b>	<b>2131</b>	<b>2429</b>	<b>2145</b>	<b>1300</b>	<b>2681</b>	<b>2362</b>	<b>3007</b>	<b>3036</b>	<b>3084</b>	

COMMERCIAL USE (Stock Nights)										
PACKER	1999n	1998w	1997n	1996n	1995w	1994d	1993w	1992d	1991n	1990d
Balch Park	156	154	431	265	71	0	0	0	0	0
Bishop Pack Outfitters	329	48	139	158	246	60	0	0	0	0
Cedar Grove PS/ Loverin	883	427	669	651	573	1202	1090	1159	1642	1399
Clyde Pack Oftts./Clyde	17	0	14	16	48	29	86	19	28	75
Cottonwood PS/Winchester	104	84	285	282	46	32	270	525	832	1008
Glacier Pack Train/Stewart	0	7	42	0	0	77	115	14	0	39
Golden Trout PS/D. Shew	641	62	391	147	18	207	79	116	144	48
High Sierra PS/Cunningham	109	74	154	174	32	83	113	206	223	71
Horse Corral PS	176	30	194	231	114	834	450	855	609	624
Leelin Llama Treks	24									
Llamas of Circle Home/Caldwell	0	8	28	14	0	0	0	0	0	0
Lost Valley Camp PS, Ross	62	89	41	89	23	161	80	158	36	75
McMillion, S. Lake & Onion Valley	0	0	0	0	0	119	318	187	208	807
Mineral King PS/ Page	8	80	111	524	643	1112	845	1393	1939	1825
Mt. Home/ T. Shew	0	0	0	0	0	313	124	206	158	223
Muir Trail Ranch/ Smith	23	26	7	8	14	24	6	28	44	24
North Lake/ Schober	0	0	0	0	0	0	77	45	112	340
Oregon Llamas/ Landis	0	0	0	0	0	119	0	0	0	0
Pine Creek PS/ Berner	0	0	4	68	20	75	57	308	15	128
Rainbow Pack Station	na	28	77	174	116	-	-	-	-	-
Red's Meadow PS/ Tanner	0	0	52	0	0	90	114	125	290	193
Rock Creek PS - Whitney Pack Train	607	416	683	365	266	791	417	738	533	1120
Sequoia Kings Pack Train	29	41	91	389	406	-	-	-	-	-
Three-Corner-Round/ Kelley	110	0	90	0	0	0	90	0	0	0
Trailhead & Co. (Llamas)	185	92	85	55	0	0	0	0	0	0
Windrider Llama Treks	0	0	36	-	-	-	-	-	-	-
Wolverton Pack Station	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>3467</b>	<b>1806</b>	<b>3624</b>	<b>3608</b>	<b>2746</b>	<b>5328</b>	<b>4200</b>	<b>6112</b>	<b>6619</b>	<b>7947</b>

**Types of Stock.** Horses and mules have consistently been the primary type of stock used, while there was a slight drop in llama use relative to the previous two years.

	Horses/Mules		Burros		Llamas			
	Stock	Nights	Stock	Nights	%	Stock	Nights	%
<b>1999n</b>	7,370	94.7	189	2.4		221	2.8	
<b>1998w</b>	4,572	91.8	143	2.9		261	5.3	
<b>1997n</b>	8,469	93.1	141	1.5		491	5.4	
<b>1996n</b>	6,641	99.7	0	0		67	0.3	
<b>1995w</b>	5,279	99.2	36	0.6		10	.002	
<b>1994d</b>	9,120	98.5	257	1.1		125	0.4	
<b>1993w</b>	7,427	95.0	212	2.7		179	2.3	
<b>1992d</b>	10,808	97.3	222	2.0		77	0.7	
<b>1991n</b>	11,002	98.2	171	1.5		29	0.2	
<b>1990d</b>	12,485	96.8	354	2.7		56	0.4	

#### Monthly Use and Percentage of Entire Season, May-October

	May		June		July		August		Sept.		Oct.	
	Nights	%	Nights	%								
<b>1999n</b>	0	0	663	8.5	2133	27.4	3243	41.7	1537	19.8	204	2.6
<b>1998w</b>	0	0	67	1.3	508	10.2	2762	55.5	1439	28.9	64	1.3
<b>1997n</b>	8	0.08	574	6.3	2012	22.1	3739	41.1	1750	19.2	257	2.8
<b>1996n</b>	0	0	351	5.2	1749	26.1	2929	44.0	1431	21.3	248	3.7
<b>1995w</b>	0	0	0	0	312	4.7	2565	38.5	2135	32.1	311	4.7
<b>1994d</b>	6	0.02	647	6.8	2691	28.3	4348	45.8	1766	18.6	44	0.5
<b>1993w</b>	0	0	110	1.4	1109	14.2	4103	52.5	2271	29.0	225	2.9
<b>1992d</b>	3	0.03	1175	10.6	3748	33.7	4137	37.2	1911	17.2	133	1.2
<b>1991n</b>	7	0.1	706	6.3	3581	31.9	4860	43.4	1755	15.7	293	2.6
<b>1990d</b>	39	0.3	1019	7.9	4017	31.2	5645	43.8	1739	13.5	33	0.3

**Number of Areas Receiving Use.** The number of areas used may be used as an indication of the dispersion of grazing. Variation in the number of areas used, however, may also reflect differences in reporting. Use was reported for a total of 90 forage areas in 1999,

compared to 94 in 1998, 133 in 1997, 87 in 1996, 92 in 1995, 134 in 1994, 121 in 1993, 114 in 1992, and 115 in 1991 (a list showing the number of commercial, private, and administrative stock grazing nights for each forage area is presented in Appendix 2). **Commercial** users reported grazing in a total of 60 areas, **private** parties in 32 areas, and **administrative** users in 44 areas.

The number of forage areas utilized by user group for the past five years:

	<u>Commercial</u>	<u>Private</u>	<u>Administrative</u>	<u>Overall</u>
<b>1999n</b>	60	32	44	90
<b>1998w</b>	52	41	36	94
<b>1997n</b>	70	92	41	133
<b>1996n</b>	82	23	32	87
<b>1995w</b>	56	56	17	92
<b>1994d</b>	99	65	38	132
<b>1993w</b>	89	60	33	121
<b>1992d</b>	84	56	35	114
<b>1991n</b>	84	67	32	115
<b>1990d</b>	97	83	49	139

**Areas of High Use.** Based on reported stock nights, the following forage areas received heavy use in 1999. In previous years, heavy use was defined as use exceeding 75% of the estimated carrying capacity of a meadow. Until the system of estimating carrying capacity of these meadows is further developed and refined, heavy use will be defined based solely on the amount of use an area receives. Note that forage areas differ in their ability to withstand use and thus may be heavily used but not overgrazed. These meadows should, however, be watched closely for signs of deterioration.

The **ten** areas most heavily used (total number of stock nights) in 1999 by **each** user group (commercial, private, and administrative) are presented in the following three tables. The fourth table shows the twenty five forage areas that received the heaviest use overall (by all user groups combined).

**Commercial Use.** Number of commercial stock nights in the ten areas receiving the heaviest commercial use in 1999.

Meadow		1999	1998	1997	1996	1995	1994	1993	1992	1991
83-4	Upper Crabtree Meadow	229	0	273	100	123	143	94	235	170
86-7	Lewis Camp Large Pasture	222	30	26	29	0	0	7	37	46
65-3	Upper Vidette Meadows	210	96	8	22	0	15	73	68	330
86-5	Lower Funston Meadow	171	18	238	108	43	24	122	118	194
33-1	Evolution Meadow	167	178	187	220	255	168	176	282	149
80-3	Tyndall Creek Meadows	144	20	128	58	38	123	38	193	193
53-7	Shorty's Meadow	138	6	59	47	144	36	39	110	117
86-6	Snake Camp River Pasture	126	0	0	0	0	0	0	48	84
51-1	Simpson Meadow	122	0	27	0	5	154	104	104	201
86-2	Upper Funston Meadow	119	0	19	54	67	130	68	124	128

**Private Use.** Number of private stock nights in the ten areas receiving the heaviest private use in 1999.

Meadow		1999	1998	1997	1996	1995	1994	1993	1992	1991
72-8	Sugarloaf Meadow	207	85	128	88	105	49	115	141	69
69-5.1	Scaffold Meadow	139	76	53	233	48	142	71	73	88
86-7	Lewis Camp Large Pasture	91	28	116	15	96	28	11	35	0
71-3.1	Lower Ranger Meadow	87	0	10	0	0	18	0	0	0
71-3	Lower/Middle Ranger Meadow	84	0	0	0	0	0	52	56	30
86-2	Upper Funston Meadow	63	13	36	32	78	70	25	65	127
86-5	Lower Funston Meadow	46	20	120	41	18	38	46	77	109
83-5	Lower Crabtree Meadow	38	73	21	00	10	0	24	50	25
70-4	Cement Table Meadow	34	32	14	28	12	15	48	44	23
86-6	Snake Camp River Pasture	23	0	0	0	0	4	16	0	15

**Administrative Use.** Number of administrative stock nights in the ten areas receiving the heaviest administrative use in 1999.

Meadow		1999	1998	1997	1996	1995	1994	1993	1992	1991
86-7	Lewis Camp Lg. Pasture	492	383	491	296	122	390	400	513	396
90-5.1	Hockett Meadow (=Hockett Plateau)	374	264	10	161	41	252	168	438	0
53-1	Horseshoe Meadow	219	0	0	0	0	0	0	13	0
86-1	Kern Bridge Camp	168	5	88	94	8	94	50	100	149
89-6	Upper Rattlesnake Canyon	168	0	0	25	14	3	6	34	6
69-5.1	Scaffold Meadow Tourist Pasture	163	115	165	170	193	56	71	10	48
39-3	Little Pete Meadow	142	0	0	0	0	0	77	0	60
86-2	Upper Funston Meadow	140	54	15	87	28	23	6	66	115
80-3	Tyndall Creek Meadows	120	60	77	60	0	86	66	80	244
89-10	Cow Camp	120	0	99	3	0	165	24	10	188

Of the ten meadows receiving the most commercial use in 1999, Evolution Meadow has consistently been on the list of most popular meadows among commercial users in eight of the past ten years. Lower Funston Meadow received significant use in five of the last ten years, while Upper Crabtree Meadow and Tyndall Creek Meadows received significant use in four of the past ten years. Four of the meadows (Upper Vidette, Shorty's, Simpson, and Upper Funston) were listed among the ten most heavily used by commercial packers during two to three of the last ten years. Only Lewis Camp Large Pasture and Snake Camp River Pasture did not rank among the ten most frequently used meadows by commercial packers during any of the previous nine years.

Of the ten meadows receiving the most private use in 1999, Sugarloaf Meadow and Scaffold Meadow have consistently been on the list of most popular meadows among private users in nine of the past ten years. Upper and Lower Funston Meadows appeared on this list in six and seven out of ten years, respectively. Three of the ten meadows (Cement Table, Lower/Middle Ranger, and Lewis Camp Large Pasture) were listed among the ten most heavily used by private packers during two to four of the past ten years. Only Snake Camp River Pasture was not among the ten meadows most heavily used by private packers during any of the previous nine years.

Of the ten meadows receiving heavy administrative use in 1999, Lewis Camp Large Pasture and Hockett Meadow appeared on this list in ten out of ten and eight of ten years, respectively. Kern Bridge Camp and Scaffold Meadow Tourist Pasture have each ranked among the top ten meadows used by administrative packers in six of the past ten years, while Upper Funston Meadow appeared in five of the past ten years. Cow Camp and Tyndall Creek Meadows were listed among the top ten administrative areas in four and two of the past ten years, respectively. Horseshoe Meadow, Upper Rattlesnake Canyon, and Little Pete Meadow were not listed among the ten most heavily used administrative meadows during any of the previous nine years.

**Combined Use.** The **25** most heavily used areas in 1999 for commercial, private and administrative use combined.

Meadow		1999	1998	1997	1996	1995	1994	1993	1992	1991
86-7	Lewis Camp Large Pasture	805	441	633	340	218	418	418	585	442
69-5.1	Scaffold Meadow Tourist Pasture	401	191	320	526	248	392	297	149	253
90-5.1	Hockett Meadow (Hockett Plateau)	380	267	36	281	238	451	343	693	286
86-2	Upper Funston Meadow	322	67	70	173	173	223	99	255	37
80-3	Tyndall Creek Meadows	286	89	215	118	50	214	108	273	470
83-4	Upper Crabtree Meadow	244	12	325	100	23	150	118	282	276
72-8	Sugarloaf Meadow	230	85	171	125	111	74	183	167	169
53-1	Horseshoe Meadows	219	0	0	45	0	0	0	13	0
86-5	Lower Funston Meadow	217	38	358	149	61	62	168	195	324
65-3	Upper Vidette Meadows	210	102	14	22	0	15	73	76	433
39-3	Little Pete Meadow	180	4	15	7	3	23	97	109	152
33-1	Evolution Meadow	176	78	187	220	255	168	370	698	181
89-6	Upper Rattlesnake Canyon	169	0	0	43	14	65	22	62	85
86-1	Kern Bridge Camp	168	68	88	112	103	120	72	141	221
86-6	Snake Camp, River Pasture	149	0	0	0	0	4	16	48	99
53-7	Shorty's Meadow	148	6	59	47	144	55	66	162	137
51-1	Simpson Meadow	137	50	81	112	45	265	344	348	291
89-10	Cow Camp	124	0	99	3	12	165	81	188	269
71-3.1	Lower Ranger Meadow	121	0	10	0	0	36	0	0	0
33-4	Darwin Meadow	119	11	47	34	1	11	7	49	0
77-5	Redwood Meadow	116	40	17	0	8	81	67	90	55
81-2.2	Wallace Creek Meadows	114	0	24	42	0	127	7	21	0
39-5	Grouse Meadow	109	4	285	121	0	67	0	83	29
83-8	Sandy Meadow	108	143	180	195	0	0	17	0	0
86-3	Big Arroyo Confluence	108	0	10	4	6	0	7	0	0
53-5	Fallen Moon Meadow	107	40	40	4	102	69	20	147	0

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## Discussion

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The return of ‘normal’ precipitation levels and subsequent normal year meadow opening dates resulted in a marked increase in commercial and administrative pack stock use during 1999. Reported private use declined slightly relative to the previous year. Reported use of supplemental feed in lieu of grazing decreased among all user groups relative to 1998. Although the decline in reported use of supplemental feed among commercial packers may be artificially depressed by missing data from two pack stations, earlier meadow opening dates likely played a role in this as well.

Administrative use continued to be focused on meadows adjacent to stock supported ranger stations (Roaring River, Hockett and Kern) and those areas serving as the foci for trail crews during the season. Lewis Camp Large Pasture and Hockett Plateau continued to receive the greatest amount of administrative stock use, while administrative use of Horseshoe Meadow, Upper Rattlesnake Canyon, and Little Pete Meadow represented departures from areas normally used over the past ten years. Trail crew use of stock increased significantly over the previous year in both Sequoia (up 97% over 1998 reported use) and Kings Canyon (up 126% over 1998).

**Data management.** Lack of response and/or a mechanism that elicits a response from private stock users remains a problem. Although the reply rate seemed to be improving over the years, there was significant delinquency in 1999, and the time required to pursue each case is simply not available. In 2000, trailhead personnel will indicate on each permit whether it is being issued to a commercial or private stock group; this will improve our ability to contact private users in a timely fashion to request their use data. Commercial packers will also be required to include the name of the client who received the permit so that we can better correlate field observations with reported use.

Although most commercial pack stations submitted their annual reports after a single warning letter was sent, delayed IBP reports remain the primary cause of the late date of this summary. The concessions office is in the process of revising the IBP requirements to address this problem, and we will continue to work with the Eastside and Westside Packers Association to obtain better compliance from their members.

Again we found that many U.S. Forest Service (USFS) wilderness permit issuing stations are not distributing SEKI stock-use cards to packers entering the Parks from USFS trailheads. As a result, some private packers are unaware of the requirement or procedures for reporting their stock use. Backcountry and trailhead rangers are asked to continue to use stock use observation forms, which are invaluable for verifying use reports and gaining a more realistic estimate of actual use for specific forage areas.

We wish to thank all of the stock users who took the time to send in their reporting forms this year, and also the backcountry rangers who kept track of stock use nights in their areas. Our gratitude also goes to the staff of the wilderness office, who continue to help us to locate and interpret the permit information.

**Appendix 1. Samples of stock use reporting forms used during 1999; the small card is distributed to private parties with their wilderness permit, and is stamped and addressed for ease of return.**

**Image Not Available**

**APPENDIX 2: REPORTED STOCK USE BY MEADOW FORAGE AREA**

**Commerical-Private-Administrative|Total Stock Nights**

Meadow		1999	1998w	1997n	1996n	1995w	1994d	1993w	1992d	1991n
28-1	Piute Creek	0-3-0   3	0-0-0   0	0-0-0   0	13-0-0   13	0-0-0   0	0-0-0   0	9-0-0   9	4-0-0   4	0-0-0   0
28-2	Aspen Meadow	28-0-0   28	50-0-0   50	11-0-0   11	12-0-0   12	0-0-0   0	2-0-0   2	0-0-0   0	0-0-0   0	0-0-0   0
28-3	Cony Camp	3-0-0   3	8-0-0   8	16-0-21   37	53-0-0   53	70-0-0   70	11-0-0   11	44-2-0   46	24-0-0   24	34-2-100   136
28-4	Franklin-Montgomery Mdw	35-0-0   35	11-0-0   11	8-0-0   8	15-0-0   15	7.5-0-0   7.5	16-0-0   16	34-0-0   34	33-0-0   33	26-0-40   66
28-6	Hell-For-Sure Jct Mdw	40-0-0   40	19-0-0   19	12-0-0   12	9-0-0   9	0-0-0   0	10-0-0   10	32-0-0   32	8-0-0   8	2-0-0   2
28-7	Upper Goddard Cyn	0-0-0   0	2-0-0   2	30-3-0   33	0-0-0   0	0-0-0   0	4-0-0   4	0-0-0   0	7-0-0   7	6-0-0   6
33-1	Evolution Meadow	167-9-0   176	178-0-0   178	187-0-0   187	220-0-0   220	255-0-0   255	168-0-0   168	176-2-192   370	282-0-416   698	149-2-30   181
33-2	McClure Meadow	73-6-15   94	19-0-0   19	53-31-0   84	22-0-0   22	0-0-0   0	22-0-0   22	38-0-0   38	94-0-0   94	73-4-46   123
33-3	Colby Meadow	39-0-10   49	13-0-0   13	65-0-0   65	40-0-0   40	58-12-0   70	71-0-0   71	15-0-0   15	60-0-0   60	48-0-296   344
33-4	Darwin Meadow	37-10-72   119	8-3-0   11	47-0-0   47	34-0-0   34	0.5-0-0   0.5	11-0-0   11	7-0-0   7	42-7-0   49	0-0-0   0
33-4.1	Upper Colby Meadow #1	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	12-0-0   12	0-0-0   0	0-0-0   0	0-0-0   0
33-4.3	Upper Colby Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	15-9-0   24	0-0-0   0	0-0-0   0	0-0-0   0
33-6	Darwin Bench	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	1-0-0   1
33-8	McGee Canyon	8-0-0   8	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	6-0-0   6	0-0-0   0	42-0-0   42	0-0-0   0
33-9	Emerald Lakes	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
34-1	Evolution Lake	12-0-0   12	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	10-0-0   10	0-0-0   0	6-0-0   6	1-5-0   6
34-2	Sapphire Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	5-0-0   5	0-0-0   0	0-0-0   0	0-2-0   2
38-1	Upper Blue Canyon	0-0-0   0	0-0-0   0	0-0-80   80	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
38-2	Blue Canyon Meadow	5-0-0   5	0-0-0   0	0-0-0   0	0-0-0   0	30-0-0   30	0-0-14   14	10-0-0   10	8-33-5   46	16-6-0   22
38-3	Lower Blue Canyon	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	24-0-0   24	0-0-0   0	0-0-0   0	0-0-0   0
39-1	Upper LeConte Canyon	22-0-0   22	0-0-0   0	0-3-0   3	0-0-0   0	0-12-0   12	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
39-2	Big Pete Meadow	29-0-0   29	36-0-0   36	64-9-0   73	210-0-0   210	12-0-0   12	42-3-0   45	20-0-0   20	55-0-13   68	24-5-62   91
39-3	Little Pete Meadow	38-0-142   180	4-0-0   4	15-0-0   15	7-0-0   7	3-0-0   3	14-9-0   23	20-0-77   97	109-0-0   109	92-0-60   152
39-4	Ladder Camp	0-0-0   0	0-0-0   0	0-0-0   0	21-0-0   21	84-0-0   84	0-0-0   0	0-0-0   0	32-0-0   32	0-0-0   0
39-5	Grouse Meadow	22-0-87   109	4-0-0   4	84-3-198   285	25-0-96   121	0-0-0   0	12-0-55   67	0-0-0   0	59-0-24   83	29-0-0   29
39-8	Deer Meadow	33-0-24   57	0-0-0   0	59-0-0   59	31-0-0   31	24-12-0   36	14-3-22   39	19-0-99   118	48-0-10   58	30-0-0   30
42-1	Dusy Creek	24-0-12   36	0-0-0   0	28-3-0   31	0-0-0   0	5-0-0   5	0-0-0   0	38-0-0   38	0-0-0   0	0-0-0   0
45-1	Palisade Lakes	22-0-0   22	0-0-0   0	28-3-0   31	15-0-0   15	0-0-0   0	0-0-0   0	19-0-0   19	0-0-0   0	12-0-0   12
46-1	Upper Basin Meadows	39-0-0   39	0-0-0   0	0-3-0   3	5-0-0   5	0-0-0   0	0-0-0   0	14-0-0   14	0-2-0   20	0-0-0   0
46-2	South Fork Kings River	0-0-12   12	0-0-22   22	26-0-11   37	53-0-24   77	0-12-0   12	25-3-77   105	42-0-0   42	124-0-0   124	15-0-0   15
46-3	Bench Lake/JMT Jct.	0-0-14   14	4-0-0   4	0-0-0   0	35-4-0   39	0-0-0   0	0-0-0   0	84-0-0   84	0-0-0   0	0-0-0   0

46-4	Bench Lake	49-0-0   49	0-0-0   0	98-0-0   98	0-0-0   0	0-0-0   0	43-0-0   43	0-0-0   0	0-0-0   0	0-0-0   0
46-5	Taboose Pass Area	0-0-0   0	6-0-0   6	0-0-0   0	0-0-0   0	16-0-0   16	0-0-0   0	9-0-0   9	0-0-0   0	0-0-0   0
46-6	Lake Marjorie	0-0-0   0	0-0-0   0	0-6-0   6	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
47-3	Marion Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
47-7	Kid Creek	0-0-0   0	0-0-0   0	50-0-0   50	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
47-8	Muro Blanco	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
51-1	Simpson Meadow	122-15-0   137	0-0-50   50	27-0-54   81	0-0-112   112	5-24-16   45	154-12-90   256	104-28-212	104-198-46	201-0-90   291
51-2	Tehipite Valley	12-0-0   12	0-0-0   0	14-0-0   14	16-0-8   24	0-0-0   0	5-0-0   5	76-0-0   76	11-0-0   11	16-0-0   16
51-3	Gnat Meadow	0-0-0   0	0-0-0   0	0-0-42   42	0-0-0   0	18-0-0   18	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
52-1	Volcanic Lakes Basin	0-0-0   0	0-0-0   0	0-2-0   2	0-0-0   0	60-0-0   60	13-18-0   31	0-0-0   0	16-0-0   16	11-0-0   11
52-2	Kennedy Canyon Meadows	0-0-0   0	0-0-0   0	0-3-0   3	0-0-0   0	0-0-0   0	13-0-0   13	0-0-0   0	0-0-0   0	0-2-0   2
52-6	Frypan Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-12   12	0-0-0   0	0-2-0   2
52-9	Big Camp Meadows	0-0-0   0	0-0-0   0	0-1-0   1	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
53-1	Horseshoe Meadows	0-0-219   219	0-0-0   0	0-0-0   0	45-0-0   45	0-0-0   0	0-0-0   0	0-0-0   0	0-0-13   13	0-0-0   0
53-3	State Lakes Area	0-0-0   0	0-0-0   0	48-61-0   109	64-48-0   112	67-4-0   71	137-0-0   137	28-18-0   46	48-0-0   48	67-2-0   69
53-4.1	Dougherty Meadows	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	40-0-0   40	0-0-0   0	0-0-0   0
53-4.2	Glacier Valley Meadows	0-0-0   0	0-14-26   40	0-6-0   6	153-0-62   215	33-0-0   33	0-35-0   35	16-3-40   59	78-9-0   87	159-0-0   159
53-5	Fallen Moon Meadow	89-0-18   107	0-0-40   40	7-24-9   40	4-0-0   4	44-4-54   102	49-5-15   69	20-0-0   20	147-0-0   147	0-0-0   0
53-6	Volcanic Trail Junction	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-2-0   2
53-7	Shorty's Meadow	138-10-0   148	6-0-0   6	59-0-0   59	47-0-0   47	144-0-0   144	36-3-16   55	39-7-20   66	110-52-0   162	117-0-20   137
53-8	Granite Pass Meadows	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-16-0   16	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
54-1	Granite Lake	0-0-0   0	8-0-25   33	0-2-0   2	0-6-0   6	0-0-0   0	55-28-0   83	0-0-0   0	0-0-0   0	0-4-0   4
54-2	Granite Basin Meadows	23-0-0   23	0-0-0   0	64-6-8   78	44-0-0   44	46-27-10   83	50-30-110   190	220-7-0   227	53-0-122   175	15-0-53   68
54-3	Grouse Lake	27-0-0   27	0-0-0   0	0-2-0   2	0-0-0   0	0-0-0   0	0-4-0   4	0-0-0   0	0-0-0   0	0-0-0   0
54-5.1	Lower Tent Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-5-0   5	0-0-0   0	0-0-0   0	0-0-0   0
54-5.2	Upper Tent Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
55-1	Woods Creek Jct Mdw	80-0-0   80	0-0-0   0	54-4-0   58	10-0-12   22	0-0-15   15	9-0-0   9	0-0-0   0	0-0-0   0	0-0-0   0
55-2	U. Paradise Valley Mdw	0-0-0   0	5-0-0   5	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
55-3	L. Paradise Valley Mdw	0-0-0   0	0-0-0   0	0-8-0   8	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
56-1	Mdw S. of Pinchot Pass	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	20-0-0   20	0-0-0   0	0-0-0   0
56-2	Twin Lakes Area	0-0-0   0	0-0-134   134	18-3-0   21	13-1-0   14	6-4-2-0   10.2	78-6-0   84	78-0-0   78	0-0-0   0	0-0-0   0
56-3	White Fork Camp	0-0-0   0	68-0-0   68	0-0-0   0	0-0-9   9	0-12-0   12	0-0-0   0	40-0-0   40	55-0-0   55	0-0-0   0
57-1	Woods Lake Meadows	20-0-0   20	27-0-0   27	15-0-0   15	13-0-0   13	6-0-0   6	4-0-0   4	50-0-0   50	0-0-0   0	40-0-0   40
58-1	Castle Domes Meadow	78-0-0   78	108-120-0   228		0-0-17   17	15-2-12   29	0-1-4-0   1.4	107-27-11   145	65-0-0   65	58-0-10   68 0-4-0   4
58-2	Woods Creek Crossing	0-0-44   44	44-24-40   108	0-0-68   68	8-0-0   8	0-0-0   0	60-0-0   60	106-0-20   126	34-30-4   68	192-16-0   208
58-3	Baxter Creek Drift Fence Mdw	49-0-14   63	76-0-0   76	86-5-3   94	57-0-0   57	0-0-0   0	75-3-0   78	62-4-0   66	31-0-0   31	15-0-0   15
59-1	Baxter Creek	0-0-0   0	0-0-0   0	0-0-0   0	5-0-0   5	0-0-0   0	3-0-0   3	0-0-0   0	0-0-0   0	0-0-0   0

61-1	Cotter Meadow	0-0-0   0	0-0-0   0	0-0-0   0	18-0-0   18	0-0-0   0	0-0-0   0	7-0-0   7	0-0-0   0	0-0-0   0
61-2	Fjord Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	7-0-0   7	0-0-0   0	0-0-0   0
61-3	Lower 60 Lakes Basin Mdws	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	66-0-0   66	0-0-0   0	6-0-0   6	46-0-0   46
62-1	Rae Lakes Basin Meadows	0-0-0   0	0-0-0   0	0-2-0   2	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	10-0-0   10
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
62-1.1	Dollar Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	5-0-0   5	0-0-0   0	0-0-0   0	0-0-0   0
63-1	Charlotte Creek Meadows	60-0-7   67	36-0-0   36	8-16-0   24	36-0-75   111	39-6-0   45	3-3-0   6	49-3-16   68	54-0-0   54	30-0-0   30
63-2	Charlotte Lake Lower Mdw	0-0-0   0	24-0-0   24	50-16-0   66	0-0-0   0	0-12-0   12	58-0-0   58	0-0-0   0	0-0-0   0	0-0-0   0
63-3	Charlotte Lake Upper Mdw	0-0-0   0	0-0-0   0	0-0-6   6	0-0-0   0	0-15-0   15	14-0-0   14	0-0-0   0	0-0-0   0	0-0-0   0
64-2	Bullfrog Lake Meadows	0-0-0   0	0-0-0   0	0-16-0   16	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
65-1	Vidette Meadow	0-0-0   0	29-47-0   76	0-14-0   14	4-0-0   4	0-14-80   94	81-0-0   81	0-0-0   0	0-0-0   0	0-0-0   0
65-2	East Vidette Meadow	0-0-0   0	0-0-0   0	23-0-0   23	147-0-0   147	39-0-0   39	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
65-3	Upper Vidette Meadows	210-0-0   210	96-6-0   102	8-0-6   14	22-0-0   22	0-0-0   0	15-0-0   15	73-0-0   73	68-8-0   76	330-103-0   433
65-4	Upper Bubbs Creek	12-0-0   12	3-0-0   3	17-0-0   17	87-0-0   87	0-0-0   0	0-0-0   0	7-0-0   7	125-0-0   125	0-14-0   14
65-5	Center Basin	0-0-0   0	0-0-0   0	0-24-0   24	0-0-0   0	0-0-0   0	0-10-0   10	0-0-0   0	0-0-0   0	0-0-0   0
66-1.1	Sphinx Creek Junction	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-15-0   15	0-0-0   0	0-0-0   0	0-4-0   4	0-0-0   0
66-2	Charlotte Creek Confluence	0-0-0   0	52-0-0   52	0-0-3   3	0-0-0   0	0-2-0   2	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
66-3	Junction Meadow	58-0-6   64	40-53-3   96	155-65-22   242	20-0-0   20	64-40-8.0	226-3-0   229	173-22-9   204	130-0-0   130	101-6-38   145
67-1	East Lake Meadow	101-0-0   101	125-12-0   137	156-11-3   170	129-0-0   129	47-44-0   91	16-46-0   62	70-12-0   82	181-0-0   181	181-0-0   181
67-2	Ouzel Meadow	0-0-0   0	107-0-0   107	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	18-0-0   18	0-0-0   0
67-3	Reflection Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-1-0   1
68-1	Sphinx Creek Crossing	0-0-0   0	0-12-0   12	17-0-0   17	4-0-0   4	60-0-0   60	46-0-0   46	0-0-0   0	0-1-0   1	32-0-0   32
69-2	West Side Roaring River	0-3-14   17	30-4-51   85	56-97-0   153	16-18-0   34	24-0-0   24	0-0-0   0	0-30-0   30	0-0-0   0	0-31-36   67
69-2.2	Upper West Side Roaring River	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-32-0   32	0-0-0   0	0-0-0   0	0-0-0   0
69-3	JR Pasture	0-0-47   47	0-0-23   23	0-24-18   42	5-0-20   25	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-10   10
69-4	Lackey Pasture	23-0-18   41	0-9-48   57	0-0-4   4	0-8-40   48	0-0-0   0	0-15-0   15	0-0-0   0	0-0-0   0	0-0-0   0
69-5.1	Scaffold Mdw Tourist Past.	99-139-163	0-76-115   191	102-53-165	123-233-170	7-48-193   248	194-142-56	155-71-71   297	66-73-10   149	117-88-48   253
69-5.2	Grasshopper Meadow	0-0-0   0	0-0-0   0	0-14-2   16	0-0-0   0	7-0-0   7	0-0-0   0	20-0-0   20	0-0-0   0	0-0-0   0
70-1.1	Grasshopper Camp	0-0-0   0	0-18-3   21	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	9-0-0   9
70-3	False Cement Table Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	33-2-0   35	0-0-0   0	0-0-0   0
70-4	Cement Table Meadow	0-34-0   34	0-32-0   32	0-14-0   14	7-28-0   35	24-12-0   36	75-15-0   90	59-48-0   107	138-44-0   182	56-23-0   79
70-5	Big Wet Meadow	62-0-21   83	0-6-0   6	0-0-17   17	4-0-0   4	0-18-0   18	29-0-0   29	0-18-0   18	139-0-0   139	113-2-9   124
70-6	Grand Palace Hotel	0-9-35   44	0-4-0   4	0-0-0   0	40-0-0   40	0-0-0   0	18-10-0   28	0-12-0   12	0-68-0   68	30-0-0   30
70-7	Colby Lake	0-0-0   0	0-0-0   0	0-7-0   7	0-0-0   0	0-0-0   0	0-0-8   8	0-4-0   4	0-0-0   0	20-0-0   20
71-1	Austin Camp Meadows	0-0-0   0	0-12-0   12	0-16-0   16	0-48-0   48	0-0-0   0	80-0-0   80	48-86-0   134	120-0-0   120	70-10-0   80
71-2	Grave Meadow	0-21-0   21	0-48-0   48	0-0-0   0	30-125-0   155	6-110-0   116	24-0-0   24	60-16-0   76	39-64-0   103	121-24-0   145
71-3	Lower/Middle Ranger Meadows	0-84-0   84	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	75-52-0   127	90-56-105   251	20-30-275   325
71-3.1	Lower Ranger Meadow	28-87-6   121	0-0-0   0	0-10-0   10	0-0-0   0	0-0-0   0	18-18-0   36	0-0-0   0	0-0-0   0	0-0-0   0
71-3.2	Middle Ranger Meadow	0-0-3   3	0-18-6   24	0-1-0   1	33-0-0   33	0-0-0   0	32-0-0   32	0-0-0   0	0-0-0   0	0-0-0   0

71-4	Upper Ranger Meadow	0-0-0   0	0-0-0   0	0-86-65   151	0-0-0   0	0-0-0   0	7-10-160   177	0-0-0   0	0-12-0   12	88-0-0   88
71-5	Upper Deadman Canyon	0-0-0   0	0-0-0   0	4-0-0   4	0-0-0   0	0-0-0   0	28-0-40   68	0-0-0   0	0-0-0   0	0-0-0   0
72-10	Sugarloaf Creek Camp	0-0-0   0	0-3-0   3	4-1-0   5	0-0-0   0	34-0-0   34	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
72-17	West Fork Ferguson Ck	0-0-0   0	0-12-0   12	0-0-0   0	0-0-0   0	0-0-0   0	50-144-0   194	100-36-0   136	91-0-0   91	5-0-0   5
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
72-18	Ferguson Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-70-0   70	0-0-0   0	0-0-0   0	11-29-0   40	0-0-0   0	0-26-0   26
72-19	Long Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	18-10-0   28	0-0-0   0	0-0-0   0
72-3	Willow Meadow	0-0-0   0	0-0-0   0	0-10-0   10	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
72-4	Mitchell Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-4-0   4	0-0-0   0	0-0-0   0	0-0-0   0
72-6	Williams Meadow	0-0-0   0	0-0-0   0	0-0-0   0	4-0-0   4	0-12-0   12	23-3-0   26	0-12-0   12	0-36-0   36	0-6-0   6
72-7	Comanche Meadow	0-6-0   6	0-6-0   6	5-56-0   61	4-0-0   4	6-9-5-0   15.5	26-10-0   36	1-0-0   1	0-4-0   4	0-0-0   0
72-8	Sugarloaf Meadow	20-207-3   230	0-85-0   85	43-128-0   171	27-98-0   125	6-105-0   111	25-49-0   74	68-115-0   183	26-141-0   167	100-69-0   169
72-9	Little Sugarloaf Meadow	0-0-0   0	0-0-0   0	0-0-0   0	17-0-0   17	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
73-1	Sheep Camp Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	7-0-0   7	0-8-0   8	0-0-0   0	0-0-0   0
73-2	Seville Lake	20-0-0   20	0-4-0   4	0-62-0   62	0-0-0   0	0-9-0   9	0-2-0   2	0-0-0   0	0-0-0   0	0-0-0   0
73-3	Lovelace Cabin Meadow	0-0-0   0	0-0-0   0	0-0-0   0	14-0-0   14	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
73-4	Lost Lake	0-0-0   0	0-0-0   0	0-73-0   73	0-32-0   32	0-6-0   6	34-24-0   58	6-8-0   14	0-5-0   5	0-6-0   6
73-5	Ranger & Beville Lakes	0-0-0   0	0-0-0   0	28-20-0   48	0-0-0   0	0-8-0   8	27-0-21   48	0-6-0   6	0-0-0   0	0-0-0   0
74-1	Twin Lakes	0-0-0   0	0-0-0   0	16-30-0   46	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
74-3	Clover Creek	0-0-0   0	0-0-0   0	0-12-0   12	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-8-0   8	0-8-0   8
75-1	Lone Pine Meadows	0-0-0   0	0-0-0   0	4-18-0   22	0-0-0   0	0-0-0   0	110-0-21   131	22-28-0   50	13-0-8   21	0-0-0   0
75-2	Tamarack Lake	0-0-0   0	0-0-0   0	0-19-0   19	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	11-0-0   11	0-0-0   0
77-1	Bearpaw Meadow	0-0-0   0	0-0-0   0	0-4-0   4	11-0-0   11	0-2-0   2	0-0-0   0	0-16-0   16	0-0-0   0	0-6-0   6
77-2	Little Bearpaw Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	10-0-0   10	0-0-0   0	0-0-0   0	0-0-0   0
77-3	River Valley	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	10-0-0   10	21-0-0   21	0-0-0   0	0-0-0   0
77-4	Granite Ck, Strawberry Mdw	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	15-0-0   15	0-0-0   0
77-5	Redwood Meadow	0-12-104   116	0-0-40   40	0-1-16   17	0-0-0   0	0-8-0   8	28-20-33   81	25-10-32   67	38-0-52   90	40-0-15   55
77-6	Cliff Creek	0-0-0   0	0-0-17   17	0-35-0   35	0-0-0   0	0-0-0   0	0-2-0   2	0-6-0   6	0-0-0   0	0-2-0   2
77-7	Pinto Lake Meadow	6-0-0   6	0-0-0   0	25-35-0   60	44-0-12   56	65-32-14   111	76-2-21   99	105-21-0   126	161-0-40   201	138-14-0   152
78-1	Hamilton Lakes	0-0-0   0	0-0-0   0	0-129-0   129	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
79-1	Cold Springs Camp Area	0-0-0   0	0-0-88   88	0-0-0   0	0-0-0   0	0-0-0   0	0-0-132   132	0-0-86   86	0-35-76   111	0-6-97   103
79-2	Milestone Basin	0-0-0   0	0-6-0   6	0-5-0   5	0-0-0   0	0-0-0   0	87-14-0   101	0-0-0   0	0-14-0   14	12-19-0   31
79-3	Rockslide Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	0-0-0   0
79-5	Gallats Lake Meadows	0-0-0   0	0-0-0   0	0-12-0   12	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	18-14-18   50
79-6	Upper Kern-Kaweah River	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	39-0-0   39	0-0-0   0	0-0-0   0	0-0-0   0
80-2	Tyndall Ck/JMT Frog Ponds	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-35-0   0.35	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
80-3	Tyndall Creek Meadows	144-22-120	20-9-60   89	128-10-77   215	58-0-60   118	38-12-0   50	123-5-86   214	38-4-66   108	193-0-80   273	193-33-244
80-4	Sheep Camp Meadows	0-0-0   0	0-0-0   0	0-0-0   0	70-0-0   70	20-0-0   20	0-0-0   0	0-0-0   0	44-0-0   44	0-0-0   0
80-5.1	Lake South America	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-17-0   17	0-3-0   3	28-0-0   28	22-0-0   22

80-6	Kern Headwaters	0-0-0   0	0-0-0   0	0-5-0   5	0-0-0   0	60-0-0   60	78-0-0   78	0-0-0   0	0-15-0   15	51-5-0   56
81-1	Wright Creek Drainage	24-10-0   34	0-6-0   6	38-0-0   38	0-0-0   0	48-0-0   48	0-14-0   14	0-0-0   0	0-13-0   13	0-0-0   0
81-2.1	Wallace Ck/JMT Jct Mdw	0-0-0   0	0-0-0   0	0-10-0   10	0-0-0   0	44-0-35-0	0-0-0   0	0-0-0   0	0-0-0   0	11-0-0   11
81-2.2	Wallace Creek Meadows	114-0-0   114	0-0-0   0	0-24-0   24	42-0-0   42	0-0-0   0	112-15-0   127	0-7-0   7	21-0-0   21	0-0-0   0
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
81-2.3	Wallace Ck Waterfall Mdw	5-0-0   5	0-0-0   0	0-0-0   0	40-0-0   40	139-0-0   139	40-0-0   40	40-0-0   40	178-12-0   190	173-7-0   180
81-2.4	Marshy Meadows	0-0-0   0	0-0-0   0	0-0-0   0	9-0-0   9	0-0-0   0	21-0-0   21	0-0-0   0	0-0-0   0	0-0-0   0
82-1	Junction Meadow on the Kern	0-7-12   19	0-0-0   0	0-32-77   109	4-6-18   28	0-28-0   28	29-124-6   159	7-0-3   10	47-19-0   66	59-27-0   86
82-2	One mi. < Junction Mdw	0-0-2   2	0-0-3   3	0-0-2   2	0-0-6   6	0-0-0   0	0-0-0   0	0-0-0   0	0-0-3   3	0-8-0   8
83-3	Crabtree R.S. Meadows	0-0-0   0	5-0-2   7	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-12-0   12	3-10-0   13
83-4	Upper Crabtree Meadow	229-15-0   244	0-12-0   12	273-52-0   325	100-0-0   100	23-0-0   23	143-7-0   150	94-24-0   118	235-47-0   282	170-106-0   276
83-5	Lower Crabtree Meadow	11-38-22   71	72-73-0   145	86-21-40   147	103-0-36   139	88-10-0   98	6-0-0   6	58-24-0   82	86-50-0   136	158-25-0   183
83-6	Crabtree Lakes Meadows	0-0-0   0	6-0-0   6	0-0-0   0	0-0-0   0	0-0-0   0	51-0-0   51	0-0-0   0	0-0-0   0	0-0-0   0
83-7	Lower Whitney Creek	0-0-0   0	0-16-0   16	0-30-0   30	0-0-0   0	26-30-29   85	50-68-134   252	0-0-88   88	0-0-149   149	40-0-124   164
83-8	Sandy Meadow	0-0-108   108	0-0-143   143	0-4-176   180	27-0-168   195	0-0-0   0	0-0-0   0	14-3-0   17	0-0-0   0	0-0-0   0
84-1	Rock Creek R.S. Meadow	0-0-0   0	18-0-0   18	0-4-0   4	0-0-0   0	0-0-0   0	15-0-0   15	0-0-0   0	0-0-0   0	0-0-0   0
84-2	Lower Rock Ck Xing Mdw	0-9-96   105	37-30-66   133	36-6-68   110	28-0-0   28	167-10-0   177	0-0-0   0	75-7-0   82	39-107-0   146	40-109-0   149
84-3	Lower Rock Creek Meadows	0-0-0   0	0-0-0   0	9-41-0   50	52-0-0   52	0-12-0   12	0-34-0   34	7-0-0   7	0-0-0   0	0-0-0   0
84-4	Forgotten Canyon Meadows	0-0-0   0	0-0-0   0	0-0-0   0	7-0-0   7	0-0-35-0   0.35	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
84-5	Guyot Creek Meadows	0-0-0   0	0-0-0   0	0-4-0   4	0-0-0   0	0-0-0   0	0-0-0   0	25-3-0   28	0-14-0   14	0-0-0   0
85-10	Nathan's Meadow	55-0-0   55	18-0-66   84	19-0-20   39	21-3-33   57	0-0-0   0	34-0-134   168	83-4-0   87	163-16-80   259	193-0-76   269
85-2	Miter Basin Meadows	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
85-3	Lower Miter Basin Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-7-0   7	0-0-0   0	0-0-0   0	0-7-0   7
85-4	Penned-up Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	17-0-0   17	0-0-0   0	28-3-0   31	59-0-0   59
85-6	Lower Soldier Lake Mdws	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
85-7	New Army Pass Jct Mdws	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-7-0   7	0-0-22   22	0-0-0   0	0-0-0   0
85-8	Lower Rock Creek Lk Mdw	8-0-21   29	36-16-0   52	10-0-0   10	0-0-0   0	0-0-0   0	0-0-0   0	77-4-0   81	249-45-0   294	444-7-0   451
85-9	Rock Creek Meadow #2	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	30-0-0   30	0-0-0   0	0-0-0   0	0-0-0   0
86-1	Kern Bridge Camp	0-0-168   168	60-3-5   68	0-0-88   88	18-0-94   112	41-54-8   103	14-12-94   120	0-22-50   72	37-4-100   141	36-36-149   221
86-2	Upper Funston Meadow	119-63-140	0-13-54   67	19-36-15   70	54-32-87   173	67-78-28   173	130-70-23   223	68-25-6   99	124-65-66   255	128-127-115
86-3	Big Arroyo Confluence	0-0-108   108	0-0-0   0	0-10-0   10	4-0-0   4	0-6-0   6	0-0-0   0	0-4-3   7	0-0-0   0	0-0-0   0
86-4	21" Camp, Rattlesnake Creek	0-0-32   32	0-0-2   2	14-0-0   14	16-0-3   19	0-0-0   0	48-0-5   53	0-0-0   0	45-79-0   124	0-5-0   5
86-5	Lower Funston Meadow	171-46-0   217	18-20-0   38	238-120-0   358	108-41-0   149	43-18-0   61	24-38-0   62	122-46-0   168	118-77-0   195	194-109-21
86-6	Snake Camp, River Pasture	126-23-0   149	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-4-0   4	0-16-0   16	48-0-0   48	84-15-0   99
86-7	Lewis Camp Large Pasture	222-91-492	30-28-383   441	26-116-491	29-15-296   340	0-96-122   218	0-28-390   418	7-11-400   418	37-35-513   585	46-0-396   442
86-8	Kern Station Small Pasture	0-9-92   101	14-0-66   80	20-22-88   130	0-0-46   46	0-0-32   32	0-0-72   72	0-6-40   46	3-0-84   87	0-0-0   0
87-1	Upper Big Arroyo	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	42-6-42   90	0-27-0   27	22-0-0   22	0-0-0   0
87-10	Sky Parlor Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	0-12-0   12	3-7-0   10	0-8-0   8	2-2-0   4
87-2	Little Upper Big Arroyo	0-0-0   0	0-0-14   14	0-0-0   0	0-0-0   0	0-0-0   0	0-12-0   12	0-0-0   0	0-0-0   0	0-0-0   0

87-3	Big Arroyo Patrol Cabin	0-0-0   0	0-0-24   24	0-0-33   33	0-0-77   77	0-0-0   0	0-4-33   37	3-0-130   133	45-4-80   129	0-0-22   22
87-4	Lower Big Arroyo	0-0-0   0	10-0-0   10	0-4-0   4	0-0-0   0	0-0-0   0	0-4-0   4	0-0-5   5	12-7-73   92	0-0-44   44
87-6	Chagoopa Plateau Mdw #2	0-0-0   0	0-0-0   0	0-0-0   0	7-0-0   7	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
87-7	Chagoopa Plateau Mdw #3	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-3-0   3	0-0-0   0	0-0-0   0	0-0-0   0
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
87-8	Chagoopa Plateau Mdw #4	0-0-0   0	0-0-0   0	0-0-0   0	0-8-0   8	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
87-9	Chagoopa Plateau Treehouse	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-3   3	0-8-0   8	0-0-0   0
88-1	L. Little 5 Lks (Long Lake)	0-0-0   0	0-0-0   0	59-3-0   62	48-8-0   56	51-48-0   99	88-0-0   88	75-0-0   75	64-0-0   64	120-0-0   120
88-2	U. Little 5 Lks (R.S. Mdws)	0-0-0   0	0-0-0   0	0-7-0   7	0-0-0   0	0-0-0   0	0-0-0   0	3-6-0   9	20-0-0   20	40-4-0   44
88-3	Big 5 Lakes Lower Mdw	0-0-0   0	0-0-0   0	18-0-0   18	0-0-0   0	0-0-0   0	37-0-0   37	0-0-0   0	0-0-0   0	0-0-0   0
88-4	Big 5 Lakes Upper Mdw	0-0-0   0	0-0-0   0	0-0-0   0	14-0-0   14	51-48-0   99	38-0-0   38	0-0-0   0	10-0-0   10	54-36-0   90
89-10	Cow Camp	4-0-120   124	0-0-0   0	0-0-99   99	0-0-3   3	0-12-0   12	0-0-165   165	57-0-24   81	108-70-10   188	76-5-188   269
89-12	Crytes Lake	32-0-0   32	0-0-0   0	0-0-0   0	8-0-0   8	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
89-13	Coyote Creek Meadows	12-0-0   12	0-0-0   0	0-0-0   0	8-0-0   8	17-0-0   17	12-10-0   22	15-12-0   27	17-0-0   17	0-0-0   0
89-2	Upper Lost Canyon Meadows	0-0-0   0	0-0-0   0	0-0-0   0	0-0-80   80	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	55-0-0   55
89-3	Lower Lost Canyon Mdws	0-0-0   0	0-0-0   0	0-0-99   99	0-0-0   0	0-0-0   0	5-0-0   5	0-0-130   130	0-0-60   60	0-0-0   0
89-3.2	Lost Canyon Lower Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-66   66	0-0-0   0	0-0-0   0	0-0-0   0
89-5.1	Forester Lake Bench Mdws	0-1-0   1	0-0-0   0	0-0-0   0	28-0-0   28	93-0-0   93	139-0-0   139	34-0-0   34	0-0-0   0	14-0-0   14
89-5.2	Forester Lake Meadows	0-0-0   0	0-0-0   0	9-69-0   78	0-8-0   8	0-0-0   0	0-7-6-0   76	0-8-0   8	0-7-0   7	5-0-0   5
89-5.3	Forester Lake Pocket Mdw	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	32-0-0   32	0-0-0   0	0-0-0   0
89-6	Upper Rattlesnake Canyon	0-1-168   169	0-0-0   0	0-0-0   0	18-0-25   43	0-0-14   14	52-10-3   65	16-0-6   22	21-7-34   62	79-0-6   85
89-7	Shotgun Pass Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-12   12	0-0-0   0	0-0-0   0
89-8	South Rattlesnake Canyon	0-0-0   0	0-0-0   0	0-0-0   0	113-0-0   113	0-0-0   0	130-0-0   130	142-0-0   142	179-0-3   182	275-0-0   275
89-9	Middle Rattlesnake Canyon	0-0-5   5	10-0-133   143	0-0-4   4	18-16-142   176	52-0-0   52	0-34-6   40	9-0-27   36	127-56-92   275	46-17-0   63
90-1.5	Horse Creek	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	48-0-0   48	0-0-0   0	0-0-0   0	0-0-0   0
90-10	South Fork Meadow	60-0-0   60	0-30-0   30	20-102-0   122	193-95-0   288	71-74-0   145	261-189-0   450	33-76-0   109	216-87-0   303	236-123-0   359
90-11	South Fork Pasture	84-0-0   84	0-0-0   0	80-78-0   158	72-0-0   72	57-0-0   57	24-0-0   24	13-8-0   21	0-70-0   70	133-47-0   180
90-12	Blossom Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	44-0-0   44
90-13	Slim's Meadow	0-0-0   0	110-0-0   110	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	14-0-0   14	0-0-0   0
90-14	Green Meadow	0-0-0   0	24-0-0   24	50-0-0   50	0-0-0   0	0-15-0   15	0-60-0   60	74-36-0   110	0-0-0   0	0-37-0   37
90-15	Tuohy Meadows	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	0-14-0   14	7-0-0   7	0-0-0   0	0-0-0   0
90-16	Summit Meadow	0-0-0   0	0-0-0   0	0-54-0   54	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
90-17	Cyclone Meadow	0-0-0   0	0-0-0   0	10-2-0   12	0-0-0   0	0-10-0   10	0-0-0   0	0-0-0   0	0-0-0   0	0-12-0   12
90-18	Summit Lake Meadow	0-0-0   0	0-0-0   0	15-48-0   63	0-0-0   0	0-63-0   63	0-5-0   5	0-0-0   0	0-0-0   0	0-22-0   22
90-19	Quinn Meadow	0-0-15   15	0-0-0   0	0-4-15   19	0-0-0   0	0-0-7   7	0-0-0   0	7-0-14   21	0-0-32   32	0-0-9   9
90-3	Evelyn Lake	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-30-0   30	0-0-0   0	0-0-0   0	0-0-0   0
90-4	Cow Camp	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	81-0-18   99	0-0-0   0	0-0-0   0	0-0-0   0
90-5.1	Hockett Meadow	0-6-374   380	0-3-264   267	0-26-10   36	120-0-161   281	119-78-41   238	184-15-252	105-70-168	189-66-438	258-28-0   286
90-5.2	Hockett Pasture	0-0-98   98	0-0-100   100	0-0-169   169	0-0-160   160	0-0-402   402	0-0-0   0	0-0-279   279	0-0-136   136	0-0-299   299

90-8	Tuohy Ck/S. Fk Kaweah	0-0-0   0	0-0-0   0	226-4-0   230	0-0-0   0	0-0-0   0	0-3-0   3	0-0-0   0	34-35-0   69	0-2-0   2
90-9	Lower South Fork Meadow	0-0-0   0	20-120-0   140	30-15-0   45	0-0-0   0	0-0-0   0	24-26-0   50	50-16-0   66	0-21-0   21	0-0-0   0
91-1	Ladybug Camp	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-6-0   6	0-8-0   8	0-8-0   8	0-3-0   3
91-2	Whiskey Log Camp	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-4-0   4
<b>Meadow</b>		<b>1999</b>	<b>1998w</b>	<b>1997n</b>	<b>1996n</b>	<b>1995w</b>	<b>1994d</b>	<b>1993w</b>	<b>1992d</b>	<b>1991n</b>
92-1	Monarch Lakes	0-0-0   0	0-0-0   0	0-1-0   1	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
92-3	Franklin Lakes	0-1-0   1	8-0-0   8	0-0-0   0	4-0-0   4	0-0-0   0	0-21-0   21	0-5-0   5	0-7-0   7	0-0-0   0
93-1	White Chief Meadow	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
93-3	Mosquito Lakes	0-0-0   0	0-0-0   0	0-3-0   3	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
94-1	Mineral Lakes	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0	0-4-0   4	0-0-0   0	0-0-0   0	0-0-0   0	0-0-0   0
95-1	Redwood Canyon	0-3-0   3	32-0-0   32	26-14-0   40	0-0-0   0	0-0-0   0	14-0-0   14	0-0-0   0	0-0-0   0	0-0-0   0